Applicant: Gill et al. Page 3 of 13

CLAIM AMENDMENTS

1. (original) A compound of the formula (I):

or a salt, solvate or N-oxide thereof, wherein:

 R^1 and R^2 are the same or different and each is selected from hydrogen, saturated C_{1-3} hydrocarbyl, halogen and cyano;

X is selected from C=O, C=S, C(=O)NH, C(=S)NH, C(=O)O, C(=O)S, C(=S)O and C(=S)S;

 R^3 is selected from aryl and heteroaryl groups each having from 5 to 12 ring members and being unsubstituted or substituted by one or more substituent groups R^{10} ;

R¹⁰ is selected from halogen, hydroxy, trifluoromethyl, cyano, nitro, carboxy, amino, mono- or di-C₁₋₄ hydrocarbylamino, carbocyclic and heterocyclic groups having from 3 to 12 ring members; a group R^a-R^b wherein R^a is a bond, O, CO, X¹C(X²), C(X²)X¹, X¹C(X²)X¹, S, SO, SO₂, NR^c, SO₂NR^c or NR^cSO₂; and R^b is selected from hydrogen, carbocyclic and heterocyclic groups having from 3 to 12 ring members, and a C₁₋₈ hydrocarbyl group optionally substituted by one or more substituents selected from hydroxy, oxo, halogen, cyano, nitro, carboxy, amino, monoor di-C₁₋₄ hydrocarbylamino, carbocyclic and heterocyclic groups having from 3 to 12 ring members and wherein one or more carbon atoms of the C₁₋₈ hydrocarbyl group may optionally be replaced by O, S, SO, SO₂, NR^c, X¹C(X²), C(X²)X¹ or X¹C(X²)X¹; or two adjacent groups R¹⁰, together with the carbon atoms or heteroatoms to which they are attached may form a 5-membered heteroaryl ring or a 5- or 6-membered non-aromatic heterocyclic ring, wherein the said heteroaryl and heterocyclic groups contain up to 3 heteroatom ring members selected from N, O and S;

R^c is selected from hydrogen and C₁₋₄ hydrocarbyl; and

Applicant: Gill et al. Atty. Dkt. No.: 2245.009A

Page 4 of 13

 X^1 is O, S or NR^c and X^2 is =O, =S or = NR^c ;

 R^4 and R^5 are the same or different and are selected from hydrogen and methyl; or one of R^4 and R^5 is selected from hydroxymethyl and ethyl and the other is hydrogen; and

 ${\ensuremath{R}}^6$ and ${\ensuremath{R}}^7$ are the same or different and are selected from hydrogen and methyl.

- 2. (original) A compound according to claim 1 wherein R³ is a monocyclic aryl or heteroaryl group.
- 3-82 (canceled)
- 83. (new) A compound according to claim 2 wherein the aryl group or heteroaryl group R^3 contains one or more substituent groups R^{10} selected from halogen, carbocyclic and heterocyclic groups having from 4 to 7 ring members and optionally substituted C_{1-8} hydrocarbyl groups.
- 84. (new) A compound according to claim 83 wherein the group R³ contains a substituent R¹⁰ which is a carbocyclic or heterocyclic group having from 4 to 7 ring members and said carbocyclic or heterocyclic group is linked to the aryl or heteroaryl ring via a carbon nitrogen bond.
- 85. (new) A compound according to claim 84 wherein the carbocyclic or heterocyclic group R¹⁰ is a 4 to 7 membered heterocyclic group R⁸ selected from morpholine, piperidino, piperazino, N-methyl piperazino, tetrahydrofuranyl and pyrrolidino.
- 86. (new) A compound according to claim 1 wherein X is C=O or C(=O)NH.
- 87. (new) A compound according to claim 1 wherein R^1 is selected from hydrogen, saturated C_{1-3} hydrocarbyl and halogen.
- 88. (new) A compound according to claim 1 wherein R^2 is selected from hydrogen, saturated C_{1-3} hydrocarbyl and halogen.
- 89. (new) A compound according to claim 87 wherein R¹ is chlorine.

Applicant: Gill et al. Page 5 of 13

- 90. (new) A compound according to claim 88 wherein R² is methyl.
- 91. (new) A compound according to claim 1 wherein R⁴ and R⁵ are both hydrogen.
- 92. (new) A compound according to claim 1 wherein R^6 and R^7 are both hydrogen.
- 93. (new) A compound according to claim 1 which is selected from:

N-(4-chloro-3-methyl-5-(morpholin-yl methyl-thiophen-2-yl)-3-fluoro-morpholin-4-yl-benzamide;

1-[5-tert-butyl-2(4-fluoro-phenyl)-2H-pyrazol-3-yl]-3-(4-chloro-3-methyl-5-morpholin-4-ylmethyl-thiophen-2-yl) urea;

1-[5-tert-butyl-2-(2,4-difluoro-phenyl)-2H-pyrazol-3-yl]-3-(4-chloro-3-methyl-5-morpholin-4-ylmethyl-thiophen-2-yl)-urea; and

1-(4-chloro-3-methyl-5-morpholin-4-ylmethyl-thiophen-2-yl)-3-[5-(tetrahydro-furan-2-yl)-[1,3,4]thiadiazol-2-yl]-urea.

94. (new) A pharmaceutical composition comprising a compound of the formula (I):

or a salt, solvate or N-oxide thereof, wherein:

 R^1 and R^2 are the same or different and each is selected from hydrogen, saturated C_{1-3} hydrocarbyl, halogen and cyano;

X is selected from C=O, C=S, C(=O)NH, C(=S)NH, C(=O)O, C(=O)S, C(=S)O and C(=S)S;

 R^3 is selected from aryl and heteroaryl groups each having from 5 to 12 ring members and being unsubstituted or substituted by one or more substituent groups R^{10} ;

R¹⁰ is selected from halogen, hydroxy, trifluoromethyl, cyano, nitro, carboxy,

Applicant: Gill et al. Atty. Dkt. No.: 2245.009A

Page 6 of 13

amino, mono- or di-C₁₋₄ hydrocarbylamino, carbocyclic and heterocyclic groups having from 3 to 12 ring members; a group R^a-R^b wherein R^a is a bond, O, CO, X¹C(X²), C(X²)X¹, X¹C(X²)X¹, S, SO, SO₂, NR^c, SO₂NR^c or NR^cSO₂; and R^b is selected from hydrogen, carbocyclic and heterocyclic groups having from 3 to 12 ring members, and a C₁₋₈ hydrocarbyl group optionally substituted by one or more substituents selected from hydroxy, oxo, halogen, cyano, nitro, carboxy, amino, mono-or di-C₁₋₄ hydrocarbylamino, carbocyclic and heterocyclic groups having from 3 to 12 ring members and wherein one or more carbon atoms of the C₁₋₈ hydrocarbyl group may optionally be replaced by O, S, SO, SO₂, NR^c, X¹C(X²), C(X²)X¹ or X¹C(X²)X¹; or two adjacent groups R¹⁰, together with the carbon atoms or heteroatoms to which they are attached may form a 5-membered heteroaryl ring or a 5- or 6-membered non-aromatic heterocyclic ring, wherein the said heteroaryl and heterocyclic groups contain up to 3 heteroatom ring members selected from N, O and S;

 R^{c} is selected from hydrogen and C_{1-4} hydrocarbyl; and X^{1} is O, S or NR^{c} and X^{2} is =O, =S or = NR^{c} ;

 R^4 and R^5 are the same or different and are selected from hydrogen and methyl; or one of R^4 and R^5 is selected from hydroxymethyl and ethyl and the other is hydrogen; and

R⁶ and R⁷ are the same or different and are selected from hydrogen and methyl; together with a pharmaceutically acceptable carrier.

- 95. (new) A method for the prophylaxis or treatment of a disease state or condition mediated by a p38 MAP kinase, wherein the disease state or condition mediated by a p38 MAP kinase is selected from:
 - (i) inflammatory and arthritic diseases and conditions, Reiter's syndrome, acute synovitis, rheumatoid arthritis, osteoarthritis, rheumatoid spondylitis, gouty arthritis, traumatic arthritis, rubella arthritis, psoriatic arthritis, graft vs. host reaction and allograft rejections;
 - (ii) chronic inflammatory lung diseases, emphysema, chronic pulmonary inflammatory disease, chronic obstructive pulmonary disease (COPD), adult

Applicant: Gill et al. Page 7 of 13

respiratory distress syndrome and acute respiratory distress syndrome (ARDS);

(iii) lung diseases and conditions, tuberculosis, silicosis, pulmonary sarcoidosis, pulmonary fibrosis and bacterial pneumonia;

- (iv) inflammatory diseases and conditions of the enteric tract, inflammatory bowel disease, Crohn's disease and ulcerative colitis;
- (v) toxic shock syndrome and related diseases and conditions, sepsis, septic shock, endotoxic shock, gram negative sepsis and the inflammatory reaction induced by endotoxin;
- (vi) Alzheimer's disease;
- (vii) reperfusion injury;
- (vii) diseases and conditions selected from atherosclerosis; muscle degeneration; gout; cerebral malaria; bone resorption diseases; fever and myalgias due to infection, influenza; cachexia, cachexia secondary to infection or malignancy, cachexia secondary to acquired immune deficiency syndrome (AIDS); AIDS; ARC (AIDS related complex); keloid formation; scar tissue formation; pyresis and asthma; which method comprises administering to a subject in need thereof a compound of the formula (I):

or a salt, solvate or N-oxide thereof, wherein:

 R^1 and R^2 are the same or different and each is selected from hydrogen, saturated C_{1-3} hydrocarbyl, halogen and cyano;

X is selected from C=O, C=S, C(=O)NH, C(=S)NH, C(=O)O, C(=O)S, C(=S)O and C(=S)S;

 R^3 is selected from aryl and heteroaryl groups each having from 5 to 12 ring members and being unsubstituted or substituted by one or more substituent groups R^{10} ;

Applicant: Gill et al. Atty. Dkt. No.: 2245.009A

Page 8 of 13

R¹⁰ is selected from halogen, hydroxy, trifluoromethyl, cyano, nitro, carboxy, amino, mono- or di-C₁₋₄ hydrocarbylamino, carbocyclic and heterocyclic groups having from 3 to 12 ring members; a group R^a-R^b wherein R^a is a bond, O, CO, X¹C(X²), C(X²)X¹, X¹C(X²)X¹, S, SO, SO₂, NR^c, SO₂NR^c or NR^cSO₂; and R^b is selected from hydrogen, carbocyclic and heterocyclic groups having from 3 to 12 ring members, and a C₁₋₈ hydrocarbyl group optionally substituted by one or more substituents selected from hydroxy, oxo, halogen, cyano, nitro, carboxy, amino, monoor di-C₁₋₄ hydrocarbylamino, carbocyclic and heterocyclic groups having from 3 to 12 ring members and wherein one or more carbon atoms of the C₁₋₈ hydrocarbyl group may optionally be replaced by O, S, SO, SO₂, NR^c, X¹C(X²), C(X²)X¹ or X¹C(X²)X¹; or two adjacent groups R¹⁰, together with the carbon atoms or heteroatoms to which they are attached may form a 5-membered heteroaryl ring or a 5- or 6-membered non-aromatic heterocyclic ring, wherein the said heteroaryl and heterocyclic groups contain up to 3 heteroatom ring members selected from N, O and S;

 R^c is selected from hydrogen and C_{1-4} hydrocarbyl; and X^1 is O, S or NR^c and X^2 is =O, =S or = NR^c ;

 R^4 and R^5 are the same or different and are selected from hydrogen and methyl; or one of R^4 and R^5 is selected from hydroxymethyl and ethyl and the other is hydrogen; and

 ${\ensuremath{R}}^6$ and ${\ensuremath{R}}^7$ are the same or different and are selected from hydrogen and methyl.

- 96. (new) A method according to claim 95 wherein the disease state or condition is selected from inflammatory diseases and conditions, rheumatoid arthritis and osteoarthritis.
- 97. (new) A method according to claim 95 wherein the disease state or condition is chronic obstructive pulmonary disease (COPD).
- 98. (new) A method for treating a disease or condition comprising or arising from abnormal cell growth in a mammal, the method comprising administering to the mammal a therapeutically effective amount of a compound of the formula (I):

Applicant: Gill et al. Page 9 of 13

or a salt, solvate or N-oxide thereof, wherein:

 R^1 and R^2 are the same or different and each is selected from hydrogen, saturated C_{1-3} hydrocarbyl, halogen and cyano;

X is selected from C=O, C=S, C(=O)NH, C(=S)NH, C(=O)O, C(=O)S, C(=S)O and C(=S)S;

R³ is selected from aryl and heteroaryl groups each having from 5 to 12 ring members and being unsubstituted or substituted by one or more substituent groups R¹⁰;

R¹⁰ is selected from halogen, hydroxy, trifluoromethyl, cyano, nitro, carboxy, amino, mono- or di-C₁₋₄ hydrocarbylamino, carbocyclic and heterocyclic groups having from 3 to 12 ring members; a group R^a-R^b wherein R^a is a bond, O, CO, X¹C(X²), C(X²)X¹, X¹C(X²)X¹, S, SO, SO₂, NR^c, SO₂NR^c or NR^cSO₂; and R^b is selected from hydrogen, carbocyclic and heterocyclic groups having from 3 to 12 ring members, and a C₁₋₈ hydrocarbyl group optionally substituted by one or more substituents selected from hydroxy, oxo, halogen, cyano, nitro, carboxy, amino, monoor di-C₁₋₄ hydrocarbylamino, carbocyclic and heterocyclic groups having from 3 to 12 ring members and wherein one or more carbon atoms of the C₁₋₈ hydrocarbyl group may optionally be replaced by O, S, SO, SO₂, NR^c, X¹C(X²), C(X²)X¹ or X¹C(X²)X¹; or two adjacent groups R¹⁰, together with the carbon atoms or heteroatoms to which they are attached may form a 5-membered heteroaryl ring or a 5- or 6-membered non-aromatic heterocyclic ring, wherein the said heteroaryl and heterocyclic groups contain up to 3 heteroatom ring members selected from N, O and S;

 R^{c} is selected from hydrogen and C_{1-4} hydrocarbyl; and X^{1} is O, S or NR^{c} and X^{2} is =O, =S or = NR^{c} ;

 R^4 and R^5 are the same or different and are selected from hydrogen and methyl; or one of R^4 and R^5 is selected from hydroxymethyl and ethyl and the other is

Applicant: Gill et al. Page 10 of 13

hydrogen; and

 R^6 and R^7 are the same or different and are selected from hydrogen and methyl.

99. (new) A method for the prophylaxis or treatment of a disease state or condition mediated by a raf kinase, which method comprises administering to a subject in need thereof a compound of the formula (I):

or a salt, solvate or N-oxide thereof, wherein:

 R^1 and R^2 are the same or different and each is selected from hydrogen, saturated C_{1-3} hydrocarbyl, halogen and cyano;

X is selected from C=O, C=S, C(=O)NH, C(=S)NH, C(=O)O, C(=O)S, C(=S)O and C(=S)S;

R³ is selected from aryl and heteroaryl groups each having from 5 to 12 ring members and being unsubstituted or substituted by one or more substituent groups R¹⁰;

 R^{10} is selected from halogen, hydroxy, trifluoromethyl, cyano, nitro, carboxy, amino, mono- or di- C_{1-4} hydrocarbylamino, carbocyclic and heterocyclic groups having from 3 to 12 ring members; a group R^a - R^b wherein R^a is a bond, O, CO, $X^1C(X^2)$, $C(X^2)X^1$, $X^1C(X^2)X^1$, S, SO, SO₂, NR^c , SO₂ NR^c or NR^c SO₂; and R^b is selected from hydrogen, carbocyclic and heterocyclic groups having from 3 to 12 ring members, and a C_{1-8} hydrocarbyl group optionally substituted by one or more substituents selected from hydroxy, oxo, halogen, cyano, nitro, carboxy, amino, monoor di- C_{1-4} hydrocarbylamino, carbocyclic and heterocyclic groups having from 3 to 12 ring members and wherein one or more carbon atoms of the C_{1-8} hydrocarbyl group may optionally be replaced by O, S, SO, SO₂, NR^c , $X^1C(X^2)$, $C(X^2)X^1$ or $X^1C(X^2)X^1$; or two adjacent groups R^{10} , together with the carbon atoms or heteroatoms to which

Applicant: Gill et al. Page 11 of 13

they are attached may form a 5-membered heteroaryl ring or a 5- or 6-membered non-aromatic heterocyclic ring, wherein the said heteroaryl and heterocyclic groups contain up to 3 heteroatom ring members selected from N, O and S;

R^c is selected from hydrogen and C₁₋₄ hydrocarbyl; and

 X^1 is O, S or NR^c and X^2 is =O, =S or =NR^c;

 R^4 and R^5 are the same or different and are selected from hydrogen and methyl; or one of R^4 and R^5 is selected from hydroxymethyl and ethyl and the other is hydrogen; and

 ${\ensuremath{R}}^6$ and ${\ensuremath{R}}^7$ are the same or different and are selected from hydrogen and methyl.

100. (new) A process for the preparation of a compound of the formula (I):

or a salt, solvate or N-oxide thereof, wherein:

 R^1 and R^2 are the same or different and each is selected from hydrogen, saturated C_{1-3} hydrocarbyl, halogen and cyano;

X is selected from C=O, C=S, C(=O)NH, C(=S)NH, C(=O)O, C(=O)S, C(=S)O and C(=S)S;

R³ is selected from aryl and heteroaryl groups each having from 5 to 12 ring members and being unsubstituted or substituted by one or more substituent groups R¹⁰;

 R^{10} is selected from halogen, hydroxy, trifluoromethyl, cyano, nitro, carboxy, amino, mono- or di- C_{1-4} hydrocarbylamino, carbocyclic and heterocyclic groups having from 3 to 12 ring members; a group R^a - R^b wherein R^a is a bond, O, CO, $X^1C(X^2)$, $C(X^2)X^1$, $X^1C(X^2)X^1$, S, SO, SO₂, NR^c , SO₂ NR^c or NR^c SO₂; and R^b is selected from hydrogen, carbocyclic and heterocyclic groups having from 3 to 12 ring members, and a C_{1-8} hydrocarbyl group optionally substituted by one or more

Applicant: Gill et al. Page 12 of 13

substituents selected from hydroxy, oxo, halogen, cyano, nitro, carboxy, amino, monoor di- C_{1-4} hydrocarbylamino, carbocyclic and heterocyclic groups having from 3 to 12 ring members and wherein one or more carbon atoms of the C_{1-8} hydrocarbyl group may optionally be replaced by O, S, SO, SO₂, NR^c, X¹C(X²), C(X²)X¹ or X¹C(X²)X¹; or two adjacent groups R¹⁰, together with the carbon atoms or heteroatoms to which they are attached may form a 5-membered heteroaryl ring or a 5- or 6-membered non-aromatic heterocyclic ring, wherein the said heteroaryl and heterocyclic groups contain up to 3 heteroatom ring members selected from N, O and S;

 R^{c} is selected from hydrogen and $C_{1\text{--}4}$ hydrocarbyl; and

 X^1 is O, S or NR^c and X^2 is =O, =S or =NR^c;

 R^4 and R^5 are the same or different and are selected from hydrogen and methyl; or one of R^4 and R^5 is selected from hydroxymethyl and ethyl and the other is hydrogen; and

 ${\ensuremath{R}}^6$ and ${\ensuremath{R}}^7$ are the same or different and are selected from hydrogen and methyl;

which process comprises the S-alkylation of a compound of the formula (X):

$$R^{5}$$
 R^{5}
 R^{5

using an alkylating agent to give a thioimidate intermediate followed by:

- (i) reduction of the thioimidate intermediate to give a compound of formula (I) in which R⁶ and R⁷ are hydrogen by means of a reducing agent; or
- (ii) treating the thioimidate intermediate with methyl lithium or a methyl Grignard reagent, followed by a reducing agent to give a compound of the formula (I) in which one of \mathbb{R}^6 and \mathbb{R}^7 is methyl; or
- (iii) treating the thioimidate intermediate with more than one equivalent of methyl lithium or a methyl Grignard reagent to give a compound of the formula (I) in which both R^6 and R^7 are methyl.